

over a 3-year time horizon, with a special focus on prophylaxis and treatment of invasive fungal infections (IFI). **METHODS:** This was a retrospective, single-center study on AML patients hospitalized for chemotherapy, neutropenia, and infections after myelosuppressive chemotherapy from January 2004 to December 2006. Data on occurrence of IFI, treatment patterns, and resource utilization were collected by chart review. Direct medical costs were calculated from hospital provider perspective. **RESULTS:** In total, 471 hospitalization episodes in 212 patients were eligible for analysis. Occurrence of IFI decreased from 5.9% in 2004 to 1.9% in 2006. Mean hospital stay decreased from 28.7 ± 17.9 days (2004) to 22.4 ± 11.8 days (2006) ($P < 0.05$). From 2004 to 2006, use of a single antifungal drug increased from 30.4% to 46.9% of episodes, whereas use of multiple antifungal drugs decreased from 24.4% to 13.1%. Single antifungal drug use was dominated by azoles and increased from 23.7% (2004) to 43.4% of episodes (2006). Posaconazole monotherapy was applied in 26.7% of episodes. Use of liposomal amphotericin B declined from 21.4% to 3.8%, caspofungin from 19.3% to 8.1%, fluconazole from 25.2% to 11.9%, and voriconazole from 31.9% to 15.0%. Total costs per episode declined from €19,051 ± 19,024 (2004) to €13,531 ± 9,260 (2006) ($P < 0.05$); main reduction was observed for antimicrobials, blood products, and hospital stay. **CONCLUSIONS:** These real-life data from a university hospital in Germany indicate that the antifungal management of AML patient hospitalized for chemotherapy, neutropenia, and infections after chemotherapy changed between 2004/5 and 2006. This change was accompanied by a decline in treatment costs. Results suggest that the introduction of posaconazole prophylaxis in 2006 has not only reduced the use of antifungal therapies but also the need for treatment with multiple antifungal drugs.

PCN48**COST-EFFECTIVENESS COMPARISON OF APPROACHES FOR LOW-RISK PROSTATE CANCER CARE: THE NEED TO BALANCE COST AND UTILITY**Olave A¹, New M², Abenheim L³¹London School of Economics, London, UK; ²LA-SER Europe Ltd., London, UK; ³London School of Hygiene and Tropical Medicine, London, UK

Prostate cancer is the most common form of cancer in UK men and incidence is on the rise, primarily driven by increased screening. Low-risk prostate cancer has disease-specific survival consistently over 95%. Consequently, the UK has deemed radical treatments (RTs) comprising radical prostatectomy, radiotherapy, and brachytherapy as unnecessary for low-risk prostate cancer and recommends active surveillance (AS). AS does not address the disutility for patients living with cancer and in real-life over 50% of patients proceed to RT. Alternative “focal therapies” for this patient population are therefore generating interest. **OBJECTIVES:** Determine the cost-effectiveness of AS in the UK as practiced and contrast with focal therapy. **METHODS:** A Markov model was used to evaluate the cost-utility of treatments for low-risk prostate cancer. Input parameters for progression rates, efficacy, and side effects were derived from the literature. Biochemical and histological progression to RT plus patient choice were modeled. Hormonal treatment was included as salvage therapy. Age-related mortality rates were applied throughout the model. For focal therapy, all low-risk patients received treatment. Failure of treatment led to patients commencing AS, while biochemical progression at any time led to RT. Costs were taken from the UK NHS perspective. **RESULTS:** Over 25 years, AS delivered 13.3 QALYs (3.5% discount rate applied). The QALY value was heavily weighted by the utility of 0.84 associated with AS. Focal therapy delivered improved QALYs (14.6) over the same period and could be delivered for cost parity with AS. Cost-effectiveness is discussed. **CONCLUSIONS:** UK guidelines recommend AS for low-risk prostate cancer but do not meet the needs of patients, evinced by low QoL and by many patients choosing RT. Hence, AS has “hidden costs” in the UK system and there is a place for alternative treatment approaches such as focal therapies.

PCN49**PREDICTORS OF THE DIRECT COSTS OF BREAST CANCER IN THE UNITED STATES ELDERLY POPULATION**Davis KL¹, Iyer S², Candrilli S¹¹RTI Health Solutions, Research Triangle Park, NC, USA; ²Pfizer, Inc., New York, NY, USA

OBJECTIVES: To assess cancer-related costs and related predictors among elderly breast cancer patients in the United States. **METHODS:** A retrospective study was conducted in subjects aged ≥65 years and diagnosed with breast cancer between January 1, 2000 and December 31, 2005. Patients were identified from the SEER-Medicare linked database that combines clinical information on cancer cases with longitudinal (1991–2006) Medicare claims. An index date was defined as the date of the first observed breast cancer diagnosis. Costs (2009 US\$) were aggregated from subjects' index date until death, Medicare disenrollment, or database end (December 31, 2006) and included breast cancer-related surgery, radiotherapy, chemotherapy, and other medical encounters carrying a breast cancer diagnosis. Generalized linear models with a log link function and gamma distribution were used to assess predictors of costs. Age, race, stage at diagnosis, hormone receptor status (ER/PR), nodal status, Charlson comorbidity score, and chemotherapy use were key explanatory variables. **RESULTS:** The majority of the 66,217 breast cancer subjects selected were aged 70 to 79 years (47%), Caucasian (88%), and in localized stage (67%) at diagnosis. Median follow-up was 50 months. Approximately 5% of cases were diagnosed in the metastatic stage with a median follow-up of 26 months. Approximately 73% of subjects with metastatic disease died during follow-up compared to 21% of localized cases. Cancer-related adjusted costs per patient were \$55,120 (median \$25,991) for

all cases and \$153,421, \$82,789, and \$38,099, for metastatic, regional, and local stage cases, respectively. Regional and metastatic stage at diagnosis, increased age, increased number of cancer-positive lymph nodes, negative estrogen/progesterone receptor status, and chemotherapy use were found to be significant ($P < 0.001$) predictors of higher costs. **CONCLUSIONS:** Clinical characteristics indicating poorer prognosis are associated with significantly higher breast cancer costs. Patients with metastatic disease carry the highest cost of care despite having shorter follow-up and poorer survival.

PCN50**BURDEN OF HOSPITALIZATIONS FOR HEPATOCELLULAR CARCINOMA PATIENTS IN A US POPULATION**Tsong W¹, Singer ME², Ray S¹¹Abbott Laboratories, Abbott Park, IL, USA; ²Case Western Reserve University School of Medicine, Cleveland, OH, USA

OBJECTIVES: Hepatocellular carcinoma (HCC) is a rapidly progressing, fatal disease. However, little is known regarding the hospitalization burden for these patients. This study compares the burden of hospitalizations due to HCC and hepatobiliary conditions relative to other nonhepatobiliary comorbid conditions. **METHODS:** Insurance claims (January 1, 2000–December 31, 2008) from a geographically diverse, commercially insured US population were used to identify a cohort of patients with ≥ 1 HCC claim (index = 1st claim), age ≥ 18, and no other cancer diagnoses in the year prior to index. Hospitalizations were grouped by primary diagnosis (ICD-9) codes into the following categories: 1) HCC and hepatobiliary, and 2) nonhepatobiliary. Hospitalization burden was compared between these categories based on: number of hospitalizations, time to occurrence since HCC diagnosis, length of stay, and cost (2009 USD). The number of hospitalizations was compared using a sign test for patient-level differences. The remaining parameters were compared using general estimating equations to adjust for patients with multiple hospitalizations. **RESULTS:** This study identified 2927 HCC patients (mean age 50.4 years, 57% male) and 2192 hospitalizations. The subset of patients with ≥ 1 hospitalization ($n = 1083$, 37%) had an average of 2.02 admissions per patient with a median of 11.8 follow-up months. Compared to the nonhepatobiliary hospitalizations, the HCC and hepatobiliary hospitalizations had: a higher number of admissions (0.40 vs. 0.35 per patient; $P < 0.001$), a shorter time to occurrence (112 vs. 330 days; $P < 0.001$), a longer length of stay (6.4 vs. 5.4 days; $P < 0.007$), and a higher average cost per admission (\$48,539 vs. 23,221; $P < 0.001$). The total cost of HCC and hepatobiliary hospitalizations was 2.3 times higher than nonhepatobiliary hospitalizations (\$56,451,173 vs. \$23,894,444). **CONCLUSIONS:** HCC and hepatobiliary conditions accounted for the majority of the hospitalization burden in liver cancer patients. Future HCC therapies demonstrating reduced symptom progression may reduce the prevalence, duration, and cost of HCC and hepatobiliary-related hospitalizations.

PCN51**HOSPITALIZATION COSTS FOR HPV-RELATED CANCERS IN MALES AND FEMALES IN FRANCE**Borget I¹, Mathevet P², Abramowitz L³, Largeron N⁴¹Institut Gustave Roussy, Villejuif, France; ²Hopital Edouard Herriot, Lyon, France; ³Hopital Bichat, Claude Bernard, Paris, France; ⁴Sanofi Pasteur MSD, Lyon, France

OBJECTIVES: Human papillomavirus (HPV) infection is a necessary cause of cervical cancer and is associated with a subset of other anogenital (anal, vulvar, vaginal, penile) and head/neck cancers (oral cavity, oropharynx/pharynx, larynx). The overall HPV-related disease burden is considerable in Europe. This study aimed to assess the hospital costs of HPV-related cancers for both genders in France. **METHODS:** Hospitalization costs were collected from a recent publication for cervical cancer and from the French national hospital database (PMSI) for other cancers. Costs included hospital stays, radiotherapy, and chemotherapy sessions. Annual costs for each cancer were estimated from the health-care payers' perspective. **RESULTS:** In 2006, the annual costs of cervical cancer were estimated at €43.9 million. In addition, vulvar and vaginal cancers were associated with €9.7 million annually. For anal cancer, the annual costs were €20.3 million (male: €6.3 million; female: €14 million). Penile cancer hospitalizations represented €2.6 million annually. The estimated annual costs for head/neck cancers in 2007 for males and females, respectively, were €54.4 and €17.1 million for oral cavity, €128.2 and €21.7 million for oropharynx/pharynx, and €47.8 and €5.5 million for larynx. Considering the assumed proportion of cancers attributable to HPV (cervical: 100%; vulvar: 34.7%; vaginal 76.8%; anal: 84.2%; penile: 46.7%; oral cavity: 16.0%; oropharynx: 28.2%; larynx: 21.3%, in Europe), the overall hospitalization costs due to HPV-related cancers were estimated at €61.6 million in males and €70.8 million in females. **CONCLUSIONS:** The hospital burden of HPV-associated cancers in males is almost similar as in females, in France. This burden is probably underestimated since outpatient and indirect costs were not included.

PCN53**ANALYSIS OF SOCIOECONOMIC BURDEN OF HEPATOCELLULAR CARCINOMA IN RUSSIA**

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OBJECTIVES: In our study, we estimated social and economic burden of hepatocellular carcinoma (HCC) in Russian Federation resulting from HCC from the position of public health-care system. **METHODS:** All types of costs were calculated—direct